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These envelopes are attached to the sheet by pins, the size known to the trade as Lill pins being used. In most cases two pins suffice to hold the envelope in place. The pins should be placed about one-third the width of the envelope from the top, and far enough from the ends to permit of easy opening. Usually twice the width of the flap folded under, will be sufficient for this last. The pins, of course, pass through the back of the envelope and the mounting sheet in such a manner that both head and point of the pin remains inside the envelope.

By this method no rough surfaces are left to catch in other specimens, the specimen is held securely in place, yet it is but a moment's work to transfer it to another sheet whenever occasion arises. This ease of transference is especially convenient if one wishes to arrange the specimens of each species with regard to geographical distribution, and so be able to accommodate new packets in their proper places. The same is true in the case of erroneous determinations. The small holes left by the pins can easily be closed by the pressure of the thumb, and the portions of the pin inside the envelope do not injure the specimens.

I have given this method a careful trial in my own collection, and have also used it in mounting the larger portion of the mosses in the Brown University Herbarium. I find that it works well in practice, and that, with ordinary care in handling the mounted sheets, answers all demands. A very little practice in this manner of mounting, enables one to work rapidly and the sheets can be filed away in the herbarium at once, without any bothersome wait for drying of glue. Washington, D. C.

BUXBAUMIA APHYLLA L.

In March, 1903, while collecting in open woods along the banks of the Potomac river, about two miles above Cabin John Bridge, Maryland, Mr. W. R. Maxon and the writer were fortunate enough to secure several plants of *Buxbaumia aphylla*, L., in good fruit. I am not sure whether or not the plant has been previously reported from this vicinity, but it seems best to make a definite record of this collection. Specimens are in my own and in Mr. Maxon's collections. Edward B. Chamberlain.

LICHENS—NEPHROMA-SOLORINA.

By Carolyn W. Harris.

The genus Nephroma, which is not a large one, is represented by several well defined species. It is an interesting group from the peculiarity of its fruiting as it is the only genus where the apothecia are borne on the lower side of the extended lobes of the thallus. This distinguishes it readily from Peltigera where the thallus is very similar. The range of Nephroma is northern, the finest specimens having been collected in alpine or arctic regions. It is found on rocks and tree trunks in shaded and moist localities.

The thallus is frondose or composed of leaf-like sections overlapping each other, in some species it is smooth and polished, in others somewhat tomen-

tose. The underside is usually tomentose or slightly villous, sometimes there are short rhizoids, but no veining. The apothecia are large, reniform or kidney shaped, they are borne on the underside of the lobes, which in fruiting specimens are elongated and turn over onto the upper side of the thallus. The apothecia are innate with a thin margin which soon disappears; the disk is a reddish brown.

NEPHROMA ARCTICUM (L.) Fr. Thallus usually large and smooth, with rounded lobes, the edges of which are folded or rolled over onto the upper side: when fresh it it straw-colored with a greenish shade, when dry it is a decided straw color. On the under side the margin of the thallus is an apricot color, soon turning almost black, it is covered, except at the margin, with a short, thick, nap of interlaced fibrils. The apothecia are not frequent, they are large, and affixed to the lobes of the lower side of the thallus: the disk is an orange red.

N. arcticum, as its specific name indicates, is an arctic species, and is found on rocks with moss or on trunks of trees, sometimes on earth, growing with moss. Prof. Peck, the State Botanist of New York, collected this species on Pitchoff Mountain in the Adirondacks; so far this is the only known station in the State.

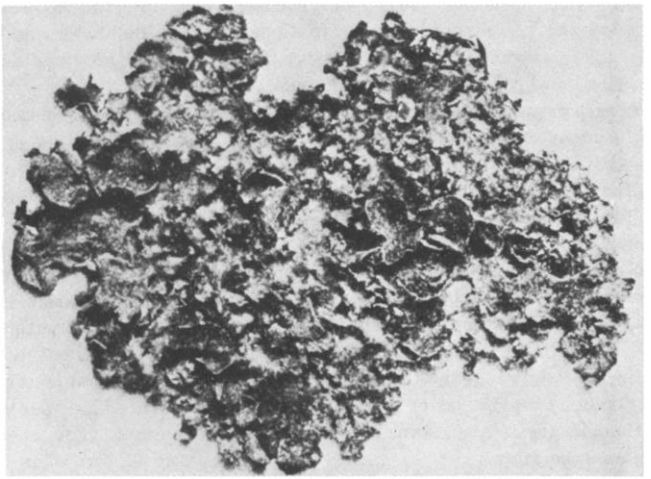


Fig. 1. *N. tomentosum.*

NEPHROMA TOMENTOSUM (Hoff.) Koerb. Fig. 1. Thallus quite large, in some specimens very large, with rounded lobes, the margins of which are wavy, and usually more or less tomentose. The color is glaucous or greenish brown, becoming lead color or dark russet. The under side is paler, usually somewhat tomentose, and covered with groups of minute, smooth, pale tubercles, toward the center are short, stiff fibrils by which it is

attached loosely to the substratum. The apothecia are large and are borne on the produced lobes of the under side of the thallus; disk chestnut with a thin, pale margin.

This is an alpine or subalpine species growing on the ground, on rocks and trunks of trees, usually fertile. In some specimens the elongated, turned over lobes with the large apothecia almost obscure the upper surface of the thallus.

NEPHROMA HELVETICUM Ach. Thallus small with narrow, deeply cut, undulate lobes, with wavy margins which are edged with tooth like nodules. The color is a tawny brown when pressed, a grayish brown when fresh. Usually the thallus is smooth but in some specimens there are little groups of spine like nodules. The under surface is dark brown, almost black at the center, is irregular and somewhat tomentose. Apothecia smaller than those of *N. tomentosum*, the disk light reddish brown turning darker with age; the margin is finely crenate.

N. Helveticum is found on rocks and trees, usually with mosses. On rocks the specimens are well developed, usually fertile, on trees the thallus is smaller and more appressed, apothecia not so frequent. This is a common species both in the Northern and Southern States.

NEPHROMA LAEVIGATUM Ach. The thallus in this species is medium and smooth, with rounded lobes which are wrinkled and rolled over. The color is greenish brown soon turning to a chestnut. The lower side is pale, growing darker toward the center, is wrinkled but has no rhizoids. The apothecia are small, the disk is a dull, red brown.

N. laevigatum is found on trees and rocks in subalpine forests, usually growing on moss to which it clings closely.

NEPHROMA LAEVIGATUM Ach. var. PARILE Nyl. The variety is more common than the species, *N. laevigatum*. The thallus is thinner and not so crisp, the lobes are broader and are usually covered on or near the crenate margins with soredia of a lighter shade. The under side is pale at the margin, soon turning a dark brown. Habitat the same as of *N. laevigatum*.

NEPHROMA LUSITANICUM Schaer. In this species the thallus is much wrinkled, especially toward the center, the lobes are deeply cut with crenate margins. In color it is a dark russet, the outer layer of the thallus frequently breaks, showing the dull yellow of the inner part; this is particularly conspicuous on the under side, which is darker than the upper surface. The apothecia vary in size, some are small, some are quite large, they differ on the same specimen.

N. Lusitanicum is found on rocks and trees in alpine districts; is also found in the Western States and in the tropics.

Solorina. This genus is a small one and may be considered the connecting link between Sticta and Peltigera. It is represented in the arctic and alpine regions by the species *S. crocea*, in the temperate by *S. saccata*, the former being found on granitic rocks, the latter on calcareous rocks or soil. The thallus is medium, smooth, foliaceous, rather rigid, it adheres rather closely, with short rhizoids to the rock, moss or soil on which it may be grow-

ing. The apothecia are innate or depressed in the upper side of the thallus, they have no apparent margin and the disk is a dark reddish brown.

The two species described in this article are the common ones and differ very, much in the color of the thallus and in the position of the apothecia.

SOLORINA CROCEA (L.) Ach. Thallus small medium, very brittle when dry, has round appressed lobes with crenate margins. It is a dull green, becoming cinnamon colored when pressed. The under surface is somewhat villous. with thick, dark brown reticulated veins, the margin is crisp, the color is a rich saffron, the rolling of the lobes giving the upper side the same hue. Apothecia are large, appressed, adnate to the thallus, disk dark reddish brown with no well defined margin.

S. crocea is an alpine species, is found on the earth, or on mossy rocks, and is not rare in the Rocky Mountains. Very handsome specimens have been collected in Scotland on Ben Lomond and other mountain peaks.

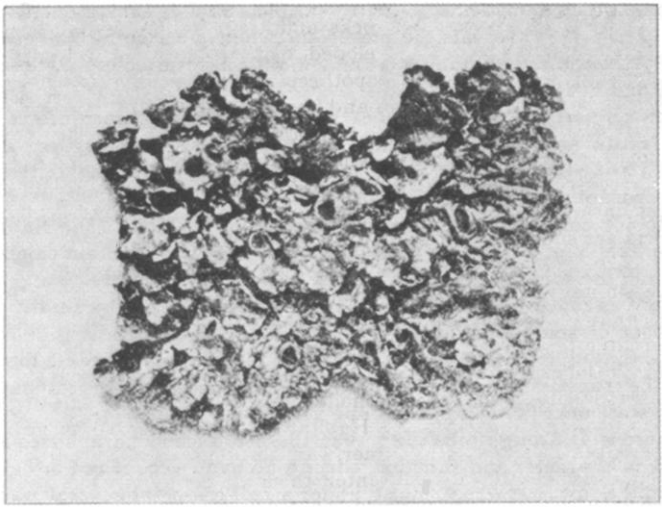


Fig. 2 *S. saccata.*

SOLORINA SACCATA (L.) Ach. This unusual looking lichen is a bright green becoming when dry a gray green: the thallus is thinner than that of *S. crocea,* the lobes are somewhat imbricate, the margin wavy. The under side is white with fibrils the same color. The apothecia are at first appresed, then depressed, giving the appearance of brown holes or pits in the thallus.

This species is found in temperate regions growing on earth or in the crevices of damp and shaded calcareous rocks.

In Chilson Lake, Essex Co., New York there is an islandan aere in extent on the south side of which the rocks are granitic, on the north side calcareous, and here *S. saccata* is found in abundance but at no othere place on the lake.